

APPENDIX B

Testimony of Sheldon Kimmel November 15, 1990

USDA Hearings on Proposed Changes in Milk Marketing Orders

I am an economist in the Economic Analysis Group of the Antitrust Division of the U. S. Department of Justice. My educational background consists of 4 years of study at the University of California at San Diego, where I received a Bachelor of Arts Degree in economics and mathematics, and 6 years of study at the University of Chicago where I received a Master of Arts Degree and a Doctorate in economics. My dissertation was a study of the effects of USDA regulation of the sugar industry over a 40-year period. My duties at the Antitrust Division include analyzing the effects of various legislative or regulatory policies and business practices on prices, production, and the welfare of society.

I have worked on a number of agricultural matters in the ten years I have been at the Antitrust Division. I have testified at USDA hearings on orange marketing orders and a proposed marketing order for eggs. I testified at a State of Hawaii hearing on their milk regulations. My most recent testimony was in a federal court in Duluth, Minnesota in an antitrust case concerning the Country Lake Foods acquisition of Superior Dairy Fresh Milk Co. I have also analyzed various features of USDA milk marketing orders, beginning in 1980 with provisions affecting reconstituted milk.

I. Introduction

The economic analysis presented here on behalf of the U.S. Department of Justice has two parts. The first part considers regulation and markets in general, providing a basis for analyzing the effects of the specific reforms that are discussed in the second part.

Given the great costs of regulation and the general success of free markets, it is not advisable to regulate the production or exchange of a good without clear evidence of circumstances that greatly limit the efficiency of a free market for milk and require an extensive regulatory system. However, such circumstances are not unique to milk, and are routinely dealt

with by unregulated producers of other goods using methods that unregulated milk producers could also use. Indeed, the current regulatory system for milk makes these circumstances worse. Thus, rather than justifying milk market regulation, if anything the characteristics of milk markets that are given as justifications for regulation, argue against regulation.

Since there are no special circumstances requiring regulation of milk markets, USDA should institute reforms that reduce the effects of the unnecessary and costly regulation we now have, and ease a transition to a free market. The second part of this testimony deals with three such reforms proposed by the Department of Justice and set forth by USDA in its Federal Register notice for this hearing [7-17-90]. These proposals are: 1) to eliminate the down allocation and compensatory payment provisions for the sale of reconstituted milk [C-1]; 2) to eliminate or reduce the distance differential [A-2]; and 3) to eliminate or reduce the Grade A differential [A-1]. These three proposals are worthwhile reforms that USDA should carry out as quickly as possible. They are also valuable steps toward introducing a free market, which is the most efficient way to organize the marketing of milk. The clear conclusion is that USDA should take these steps now.

II. Markets and Regulation

Before discussing specific proposals, it is important to begin with an analysis of the appropriate uses of free markets and regulation. Recently, people in countries with centralized economies have discovered what has long been known in this country: free markets supply products to consumers in a wide variety of situations far more efficiently than central planning. There are, of course, some exceptional circumstances, known as market failures, in which markets do not perform efficiently. However, given the great costs of regulation and the general

success of free markets, it is not advisable to regulation without clear evidence of some highly significant market failure.

Regulation of milk marketing has been defended for 50 years on the grounds that exceptional circumstances in the milk industry make unregulated milk markets unworkable. For example, a recent USDA marketing bulletin¹ states that:

"The characteristics of milk cause an inherent instability in milk marketing Milk is bulky and perishable and must be moved promptly to market. Because milk is produced every day of the year, farmers must continue shipping it to market, even when market prices are not satisfactory. Milk production varies widely with the seasons The demand for fluid milk . . . varies considerably measured day to day. Because of its perishable nature, milk cannot be stored to balance the peaks and troughs of supply. The industry, therefore, must continually produce an oversupply or reserve to make sure there will be enough fluid milk at all times for the day-to-day needs of consumers."
[The Federal Milk Marketing Order Program, 1989 p.7]

Thus, it is claimed that characteristics inherent in milk production make milk markets unstable and local, posing serious problems that require regulation. As discussed below, that claim is wrong, but the belief that milk markets have serious problems that require regulation is quite widespread.

A. The Regulatory Solution

The response to these conditions in the milk industry has been government regulation of milk ("milk marketing orders"). In each of 42 different geographic areas, regulators set the minimum prices at which milk that meets the sanitary requirements for fresh fluid consumption ("grade A milk") can be sold to firms that process milk ("handlers"). The regulators set different minimum prices for different milk uses. For example, milk that consumers will buy in fresh fluid form is in class I and sells at a high price, while milk that will become ice cream is in class II and sells at a lower price. For each class, each regulated handler is required to multiply its

marketing order's price for that class by the amount of milk it used in that class, and to pay that sum into a pool. Farmers receive a "blend price" from the pool that represents the average value of the milk that was pooled. Payments dairies may make above the minimum prices specified in the marketing orders, known as "over-order premiums", are not regulated.

The system as a whole is based on the Upper Midwest marketing order. In the Upper Midwest, the class I price is set equal to the market-determined price for milk that is not grade A, plus a differential that has been termed the "grade A differential." The class I price specified in the Upper Midwest marketing order is the lowest class I price in the system and the class I price set in other orders exceeds that price by a "distance differential." The milk regulatory system also has other regulations, far too numerous to mention here.

The result of the imposition of this regulatory system is generally to encourage excess production almost all of the time in most producing areas. This is wasteful since the excess production is used in relatively low valued ways. In addition, consumers of class I milk generally pay prices that are unnecessarily high.

Indeed, milk marketing regulation is one of the most extreme cases of government control in agriculture in this country and imposes very substantial net costs on society. A recent study² [2] by USDA's Economic Research Service ("ERS") estimated that the costs of milk regulation outweigh its benefits, with a net waste of over \$1 billion each year [Federal Milk Marketing Orders: An Analysis of Alternative Policies, 1988, p. 30]. The study found waste stemming from the following sources: reduction in fluid consumption because of the artificially high fluid price; additional surplus management problems because the artificially high blend price causes excessive production; and artificially raised production costs because reconstitution of concentrated fluid milk is, in effect, banned. In addition to these costs there are two types of

costs the study did not attempt to quantify. First, while ERS only considered concentrated fluid milk, there are also costs to the restraint on the reconstitution of dry milk power. This restraint limits the reconstitution of stored power to stabilize the market and, since shipping powder costs less than shipping fluid milk, the restraint also increases transportation costs. Second, administering marketing orders imposes direct costs on taxpayers and the industry. The regulatory process is complex and there are costs to learning about and complying with current and new regulations.

Given the substantial costs that milk marketing regulation imposes upon American taxpayers, milk producers and consumers, and the significant changes that have occurred since that regulatory system was established in the 1930s, a reexamination of the regulatory system is called for. The analysis here examines the basic question of whether market forces are capable of providing adequate supplies of milk to consumers in all regions of the country. The conclusion is that they are and that the claimed justifications of the extensive regulatory system are now irrelevant or invalid.

B. Market Solutions

Regulation of milk has been justified on the grounds that milk is bulky and perishable and production and demand variability make unregulated markets local and unstable. These claims should be closely examined.

The perishability of milk seems to raise two issues. First, it suggests that variations in production or demand could be a problem. That issue will be discussed at length below. Second, it suggests that it may be necessary to make all the arrangements for the distribution of milk in a very short time, which might be difficult. In fact, that problem can easily be handled by long term contracts. For example, in the egg industry it is very common for farmers to buy a

flock of chicks only after arranging for the sale of all the eggs that the flock will eventually produce.

Although milk production used to vary "widely with the seasons", the seasonal variability of milk production has declined sharply. Manchester reported³ that while production in the peak month exceeded production in the low month by about 50% or more until 1955, this fraction has fallen sharply since then, and was only 12% by 1981. Federal Milk Order Market Statistics show⁴ that from 1986 to 1988 no month's daily average milk production differed from the annual daily average by more than 10%. While this variation was much higher in 1989 than in the preceding years, even 1989 had only a fraction of the seasonality of the period before 1955. Still there is some seasonality in milk production and demand, and unconcentrated fluid milk is bulky.

However, supply and demand fluctuations are not unique to milk. Many products are bulky and have demands that vary with the business cycle, falling in recessions and rising in booms. There are also many markets, (such as accounting, movies, tuna fish, education, transportation, and tourism, to name a few examples) where supplies or demands have strong seasonal components. Some of these industries include products that are "perishable" in that what is not sold today cannot be inventories for later sale. Firms in these industries successfully use many approaches, such as price reductions off-peak, to deal with these conditions.

Indeed, these problems do not seem to be as serious for milk, a product that is produced in a wide area throughout the year, as they are for other agricultural products that have not been as highly regulated. Many crops are bulky and grow mostly in a few areas that cannot consume much of the crop. Many crops are harvested in only a small part of the year, with production varying far more widely with the seasons than milk production does. If crops had to be

consumed close to the farm near harvest time, there would be periods with extremely low prices, followed by periods with extremely high prices. Further, the impact of unexpectedly bad weather in a region would cause shortages and price increases there even when large quantities were available in other regions at very low prices. As we will see, currently used technologies have reduced the importance of these problems for milk markets, and currently available technologies can further reduce or eliminate the significance of these problems.

Since the conditions that milk producers face are common throughout the economy, it should not be surprising that there are a number of common responses to them that do not require regulation. Two important responses are spreading output across time by storage, and spreading output geographically by shipping the crop. These responses are discussed in turn.

1. Storage

One very common way of spreading output is storing it in warehouses when farmers have a large amount to sell and using that stored output when farmers have little to sell. Storage stabilizes prices at harvest time in two ways. First, prices paid at warehouses reflect the future demand for the crop, which is far greater than any excess or shortfall in the current harvest. For example, a crop 50% higher than average might put enormous downward pressure on current prices if it all had to be consumed currently, but will have relatively little effect on prices if it is consumed over the next 10 years. A second way that storage stabilizes prices is that it allows future production and consumption to vary in response to current excesses or shortfalls, buffering the effects on price of the current harvest. For example, if disease or bad weather reduces harvests enough, inventories will be reduced below normal levels. As long as inventories remain below normal levels, prices will tend to be higher than they otherwise would

be, thus increasing supply and decreasing demand until inventories have been built back up to normal levels.

Although fresh fluid milk cannot be stored, skim milk can be dehydrated, and the resulting nonfat dry milk powder can be stored for a year or longer and then reconstituted into fluid milk by a dairy or by consumers. However, the quality of milk reconstituted from powder by consumers is so low that very little is sold even though its price is substantially below the fresh fluid price. In this testimony, reconstitution generally refers only to commercial reconstitution.

It is possible to build up substantial stocks of dry milk powder during periods of peak milk production and, by rotating the inventory, maintain stockpiles permanently. Reconstitution of powder from such stocks when milk production is low would smooth out both seasonal and year-to-year fluctuations in prices and sales. This is particularly relevant since, even with marketing orders, there has been considerable variation in milk prices in the last two years. Such variations have been larger than they would have been if stocks of powder could have been reconstituted. Thus, much of the variation in the last two years was a result of the regulatory restraint on reconstitution of powder.

Reconstitution of dry milk powder is relatively rare now, but there is a well documented case of it in North Carolina, and consumers were willing to accept substantial quantities of reconstituted milk there. Indeed, USDA has analyzed the reconstitution of powder at dairies in the past and, in a 1980 request for public comments,⁵ USDA concluded that "the best evidence available indicates that a blended product containing 50 to 70 percent reconstituted milk is nearly indistinguishable from fresh fluid milk, either by taste or by chemical analysis." [Federal Register p. 75960 11-17-80].

Thus, if regulation were modified to allow reconstitution of milk powder, storage would become a commercially viable response to the problems of variable production and demand in the dairy industry.

2. Shipping

A second very common way of spreading output is shipment among regions. There are two reasons why such shipments can stabilize prices. First, a shortage or excess in any one producing region has relatively little effect on price or the total marketed quantity in a broader geographic area. For example, a local dairy might shut down after an outbreak of listeria, but if milk were shipped in from more distant dairies, there might be little effect on price or sales.

There are important lessons for policy towards milk to be learned from experiences in egg markets, which have never been subjected to a regulatory system like marketing orders. USDA's comments on the problems associated with milk apply equally as well to eggs:

[eggs are] bulky and perishable and must be moved promptly to market. Because [eggs are] produced every day of the year, farmers must continue shipping [them] to market, even when market prices are not satisfactory.

Nevertheless, even massive variation in regional egg production should have little effect on price or sales because of the stabilizing effect of shipments. The 1983 outbreak of avian influenza in four middle Atlantic states provides a dramatic example. USDA reported⁶ that over 11 million chickens were "depopulated" and local egg production collapsed, but egg production in unaffected areas increased, eggs were shipped in from those areas, and price increases due to the outbreak were quite small [Economic Assessment of the 1983-84 Avian Influenza Eradication Program USDA, ERS, pp. 9, 16, and 22; U.S. Egg and Poultry Statistical Series 1960-89 USDA, ERS, pp. 58-91]. The importance of these market mechanisms in egg markets raises doubts about a regulatory system that restrains these market mechanisms in milk markets.

The second reason why shipments stabilize prices is the so called "law of large numbers." The average production of a number of independent producing regions becomes more stable as the number of regions increases, because regions with excesses tend to balance regions with shortfalls. For example, suppose regions have either shortfalls or excesses, both situations being equally likely. In that case, the chance that there are at least twice as many shortfalls as there are excesses is 50% if there are only three regions, but only 25% if there are nine regions, and only 6% if there are 20 regions. Thus, as the potential for shipments links up otherwise isolated market areas into broader integrated market areas, expected shortfalls or excesses become less significant.

There are two key factors that make shipping milk a reasonable and economical response to the problems of unstable local markets. First, fluid milk can economically be shipped long distances because interstate highways and current refrigeration and insulation technology allow a substantial shelf life even after such trips. Indeed, "the increased mobility of milk" during the last 40 years is one of a number of "dramatic changes" that USDA has pointed out⁷ in a recent marketing bulletin [USDA, The Federal Milk Marketing Order Program, 1989 p. 9]. Moreover, milk powder and concentrated fluid milk are even more economical to ship since much or all of the water is removed before shipment.

Second, farmers are well educated, well integrated into the national economy, and able to deal with distant markets. Their increased investments and increased scale of operations [USDA, The Federal Milk Marketing Order Program, 1989 p. 9] have contributed to the increased sophistication of dairy farmers.

None of these factors that make storage and inter-regional shipment reasonable responses to milk market problems were present before regulations were imposed 50 years ago.

Manchester reported⁸ that in the 1930s milk traveled on bad roads, refrigeration and insulation technology were primitive where they were available at all, substantial amounts of milk were not even pasteurized, and farmers operated at a much smaller scale [Manchester pp. 25, 55, 127]. Thus, all of these factors are reasons to discount entirely the current significance of problems that existed in unregulated markets 50 years ago; the changes are so substantial that there is no reason to believe that these problems would recur if regulations were modified or eliminated.

C. Deregulation

Because free market solutions generally work well for goods that have much in common with milk, and there are no reasons to believe that milk markets have any characteristics that would pose any special difficulties for a free market, unregulated milk markets are likely to work well. Moreover, the recent experience with deregulation in milk markets, while very limited, gives no reason to expect any problems from further and more extensive deregulation. Until 1981, Wyoming had a state marketing order, but the Wyoming State Board of Agriculture concluded:⁹

"A. The order is not maintaining prices because prices are being established by a free market system through service charges and discounts

D. Marketing is such that the beneficial future of any dairy products is beyond the realm of government's ability to provide such a future.

E. The free market provides an adequate supply."

[Record of Proceedings, 12-18-80, attachment 1, p. 22]

This state order was terminated on January 16, 1981. There is no available evidence of any problems they have had as a result of deregulation.

A second state that recently deregulated is South Carolina. The transcript from their recent hearings shows¹⁰ that their state milk regulations were challenged in 1983, and eliminated by 1985 [South Carolina marketing order hearing transcript April 17, 1989 pp. 79-81]. Those

regulations were not replaced by a federal marketing order until September 1990. Milk prices have historically been relatively high in the South and, as USDA's recent recommended decision on that order¹¹ shows, South Carolina is no exception [Fed. Reg. 3-28-90, p. 11509].

Consequently, as would be expected, fluid milk consumption is relatively low there. However, it is worth noting that per capita fluid sales in South Carolina rose by 12.3% from 156.8 pounds in 1983 to 176.1 pounds in 1988 (as calculated from data on fluid sales in the South Carolina docket of hearing¹² [12 ex. 7, p. 25], and population figures from the 1990 Statistical Abstract¹³ [13 p. 20]. In sharp contrast, over the same period, both in the United States as a whole and in the only Federal milk marketing order bordering South Carolina, the Georgia Marketing Order, per capita fluid sales were essentially constant: U.S. sales rose from 235.4 pounds in 1983 to 236.2 pounds in 1988 and Georgia marketing order sales rose from about 190.1 pounds in 1983 to 190.6 pounds in 1988 (as calculated from USDA's dairy background paper for the 1990 farm bill [p. 64], Federal Milk Order Market Statistics [tables 4 and 50], and the Statistical Abstract [p. 20]¹⁴). Thus, the available evidence suggests that the deregulation of milk in South Carolina allowed producers to sell more fresh fluid milk in that market.

Despite relatively rapid sales growth after deregulation, USDA concluded,¹⁵ in its recent recommended decision, that a Federal order was needed in South Carolina [Fed.Reg. Vol. 55, pp. 11508-10]. Some of USDA's reasons, such as providing better information and more uniform regulation, have some merit, although they are not relevant to the proposals I will be discussing. However, many of the asserted reasons for the market order have no merit. For example, even though all the cooperatives were paid prices that were within 6% of \$14.54 per hundredweight [p. 11509], USDA referred to testimony on the inequity of handlers not all paying the same prices, and producers not all receiving the same prices [p. 11508]. USDA then concluded that a

Federal marketing order was needed to assure "uniformly applicable" minimum prices and to provide "an equitable division among all producers of the proceeds obtained from the sale of their milk". [p. 11510] However, the transcript of the South Carolina hearing¹⁶ shows that the witness USDA relied on for testimony concerning price differences found price differences between cooperatives to be far less than price differences within cooperatives. He also found that price differences with cooperatives were caused by "the degree that producers mesh deliveries to the base plan" and by volume and quality incentives. [South Carolina marketing order hearing April 17, 1989 transcript pp. 90-1]. These factors that explain price differences within cooperatives could also explain the more minor price differences between cooperatives. Price differences based on timely delivery and quality promote efficiency and are extremely important in our economy. Policy based on the view that it is "inequitable" to pay or receive more for timely delivery of a better quality product is antithetical to the most powerful forces that drive our economy towards productivity and efficiency. USDA should not employ such a counterproductive standard and, under any reasonable standard, the experience of South Carolina suggests social gains rather than social harms from deregulation.

The recent experience with deregulation does not suggest that milk marketing has characteristics that justify regulation. Instead, it casts doubt on the claimed justifications for milk marketing orders and suggests that deregulation would produce net benefits to society.

II. Proposed regulatory reforms

Since there are no exceptional circumstances that limit the efficiency of unregulated milk markets, USDA should consider terminating its milk marketing orders. USDA should also implement the following regulatory reforms, both because they would improve the functioning of the current system and as useful steps towards deregulation.

A. Allowing Reconstitution Without Penalties

The first way that USDA should reform the system is by eliminating the down allocation and compensatory payment provisions for the sale of reconstituted milk. These provisions restrain the reconstitution of powder or fluid concentrated milk by artificially making reconstituted milk more expensive than locally produced fresh fluid milk. There are four main factors to consider in analyzing the effects of eliminating these provisions. First, the magnitude of the effects of allowing reconstitution depends on the extent to which consumers would accept reconstituted milk. The available evidence suggests that consumers would accept substantial amounts of reconstituted milk. A second factor to consider is that reconstitution would reduce shipping costs, with the additional benefit of leading to some reductions in production cost. Third, the stabilizing effects of reconstitution should be considered. Finally, we should consider how reducing the class I differential would substantially improve the regulatory reform of reconstitution.

1. Consumers would likely accept reconstituted milk

The first issue that must be addressed in analyzing the benefit of allowing reconstitution is whether consumers would accept reconstituted milk. If consumers will not buy reconstituted milk, there is little to be gained by allowing its production; however, there is also nothing to be lost in that case. The experience of Arcadia, a North Carolina dairy, suggests that consumers would be willing to accept substantial amounts of milk reconstituted from powder. A court¹⁷ found that in the 1970s Arcadia made 6% of the fluid milk sales in its local area and that half of its sales were a blended product made of equal parts fresh fluid whole milk and reconstituted nonfat dry milk powder. [223 S.E. 2d 323.] Arcadia sold this reconstituted blend at a price 10¢ per gallon below the price of fresh fluid lowfat milk. Hammond, Buxton, and Thraen¹⁸ stated

that consumers in other areas have also accepted reconstituted powder. [Hammond, Buxton, and Thraen, Potential impacts of reconstituted milk on regional prices, utilization, and production, 1979 pp. 19-20.] Similarly, as mentioned above, USDA has concluded that consumers would accept powder in blends. Acceptance of reconstituted powder would likely be even greater in flavored milk products. Since USDA Federal Milk Order Market Statistics¹⁹ show that sales of flavored products are over 5% of total fluid sales [table 50], substantial amounts of powder could be used in flavored products alone.

The available evidence suggests that reconstituted concentrated fluid milk is also an excellent substitute for fresh fluid milk, and would have substantial sales if marketing order barriers to reconstitution were removed.

2. Reconstitution would lower costs

The extent of the resulting cost savings is the second issue that must be addressed in analyzing the benefits of removing restraints on the sale of reconstituted milk. Reconstitution reduces shipping cost since only concentrated fluid or powder is shipped and no freight is paid on the water that is not shipped. Thus, reconstitution would reduce the cost of milk that is currently shipped from low-cost regions to high-cost regions. That reduction in shipping cost would lead to a shift in dairy farming from high-cost regions to low-cost regions that would further reduce total cost. The ERS study²⁰ mentioned earlier, estimates that allowing reconstitution of concentrated fluid milk would produce net gains to society of at least \$183 million per year [Federal Milk Marketing Orders: An Analysis of Alternative Policies, 1988 p. 30. Allowing reconstitution of powder would produce even further gains.

If reconstituted milk were a perfect substitute for fresh fluid milk, the two products would sell at the same price. In that case, the price of fresh milk would fall to the cost of reconstituted milk and the cost savings from reconstituting milk would benefit all milk consumers.

Moreover, to the extent that consumers consider fresh fluid milk and reconstituted milks to be different, allowing reconstitution would provide them with one or more new milk products that are nutritionally equivalent to fresh fluid milk, but would be less expensive. Consumers that purchase reconstituted milk would save money, which they would value more than any perceived quality differences. Such savings could be particularly important to lower income consumers who spend a higher fraction of their income on basics like milk and who are especially likely to be benefitted by the availability of a cheaper source of milk.

3. Reconstitution would stabilize the market

As detailed earlier, storage and shipment stabilize prices and sales. Since powder is the way to store milk and powder and fluid concentrated milk are efficient ways to ship it, allowing reconstitution would increase the inherent stability of the milk industry. Since milk powder is much less perishable and bulky than fluid milk, allowing reconstitution of powder would mitigate the stability and bulkiness problems that USDA has identified. Allowing reconstitution of fluid concentrated milk would also mitigate the bulkiness problem, but since it is perishable it cannot increase market stability by smoothing out national supplies through storage. However, since fluid concentrate makes shipments cheaper, it would help integrate relatively unstable local markets into relatively stable broader markets. Thus, allowing reconstitution of fluid concentrated milk would also mitigate problems of instability.

In summary, reconstitution of either powder or concentrated milk would efficiently solve the very problems that marketing orders were designed to solve. The main difference between

the free market approach that allows reconstitution and the current regulatory system is the substantial waste inherent in the current system. In addition, the substantial variations in prices over the last two years calls into question whether marketing orders even provide stability. If milk powder had been produced when milk supplies were high and if that powder had been reconstituted when milk supplies were low, the price variations would have been substantially reduced.

4. Other reforms to accompany reconstitution

Restrictions on reconstitution should be removed to reduce costs and stabilize the system. However, the benefits of reconstitution can best be achieved if the removal of restrictions on reconstitution is accompanied by other changes so that the system does not artificially encourage reconstitution. Distance differentials should be lowered to increase the net benefits of reconstitution (that differentials should also be lowered quite apart from impacts on reconstitution is discussed more fully later). The classification of powder and fluid concentrated milk that will be reconstituted must also be considered.

While allowing reconstitution would stabilize the market and reduce costs, allowing reconstitution without making other changes could artificially encourage reconstitution even in cases where reconstitution is inefficient. It is easiest to see that possibility by assuming that consumers cannot distinguish between the taste of reconstituted and fresh fluid milk, and purchase whichever is cheaper. If a region's distance differential is high enough, milk reconstituted from shipped-in powder will be cheaper than the region's class I price and, by assumption, will displace all local class I sales. Clearly that can be inefficient since local milk producers may well have average production costs that are lower than the cost of reconstituted shipped-in powder. The problem identified here could arise because local producers are

prevented from competing on price by the minimum-price regulations associated with differentials. USDA, in fact, concluded²¹ that such inefficient reconstitution would happen when it considered proposals made by the Community Nutrition Institute in its 1980 request for public comments. [Federal Register 11-17-80 p. 75958.]

Such inefficient reconstitution would not occur if differentials were eliminated or reduced, as the Department of Justice proposes. In that case, local producers would be allowed to compete on price with milk reconstituted from powder. Even without considering consumer benefits from increased milk purchases and the reduction in farm costs due to reduction and reallocation of production, USDA's 1980 analysis²² shows that allowing reconstitution with such adjusted differentials would produce substantial net benefits to society. [Federal Register 11-17-80 p. 75973.]

The proposal of the Department of Justice would allow reconstitution without any further regulation of powder that ultimately will be sold for fluid use. The Trade Association of Proprietary Plants ("TAPP") has suggested a somewhat different proposal: reduce distance differentials and allow reconstitution, but when powder is reconstituted, re-price the milk that was dried at the higher class I price, passing that higher price back to the farmers that produced it. This proposal would raise the price of such powder and would inefficiently discourage reconstitution. Thus, TAPP's proposal would allow reconstitution at a restrained level, and result in less benefits and more regulatory costs than the Department of Justice's proposal. While TAPP's proposal is markedly inferior to eliminating all price regulation of reconstitution, it would still provide substantial benefits: lowering costs to the industry and the consumer and increasing market stability. This could be a significant improvement over the current system.

B. Lowering Differentials

This section elaborates the proposal of the Department of Justice to eliminate or lower distance differentials and the grade A differential. As discussed above, it is important to lower differentials to increase the net benefits of reconstitution. Moreover, lowering differentials would produce substantial additional net gains to society whether or not reconstitution is allowed. In analyzing the effects of lowering differentials, it should be noted that USDA Dairy Market Statistics²³ show that the regulated class prices are generally not the prices at which milk is sold. Typically, class I milk is sold at a premium over the class I price set by Federal orders. Thus, in considering the effects of changes in class I prices it is important to consider the response of over-order premiums.

Lowering differentials would produce three categories of social benefits. First, lowering differentials would likely lower some artificially high prices and increase consumption to more efficient levels. Lowering the regulated differential in an area would likely lower actual market prices in some cases, may have no effects on market prices in other cases, but cannot cause such prices to rise. In markets where over-order premiums result from competition, lowering differentials would have no effect: supply and demand balanced at the old market price and if class I prices fall, then over-order premiums will rise to keep the market price constant and supply and demand in balance. However, where cooperatives receive an over-order premium due to an exercise of market power, cutting class I prices would tend to cut actual market prices. That would happen because the initial market prices could be maintained only if over-order premiums increased, but since over-order premiums in this case are an exercise of market power, the limits on the cooperatives' market power also limit these premiums. The filings in this proceeding show that it is widely believed that there are a number of areas where market prices will respond to changed differentials. In such cases, the standard result for the exercise of

market power applies: lowering price would increase consumption and lower the "dead-weight loss"; i.e., lower the waste arising from consumption foregone due to the exercise of market power.

One might object that this analysis is incomplete since it ignores the possibility that lowering prices could lead to a shortage. However, that cannot happen. If lowering class I prices threatened some market with a shortage, local dairies would compete over the milk that was available and bid up its price. Thus, over-order premiums would increase until milk supplies increased enough to eliminate the shortage: cutting class I prices cannot cause a shortage. Despite the fact that there is a regulated minimum price in this market, over-order premiums allow supply to respond to demand the same way it does in other markets.

The second benefit from lowering differentials is that production would be more efficient after artificial incentives to produce milk in high-cost areas were removed and production in low-cost areas were stimulated. This benefit is most clearly understood with an example of two regions with substantially different prices that always produce some manufactured milk products. Farmers in both regions will have profit incentives to produce milk up to the point where the cost of producing additional milk equals the local blend price adjusted for the over-order premium. Thus, the difference in adjusted blend prices is the difference in the cost of producing additional milk. Ignoring the cost of shipping manufactured milk products, which is relatively low (per hundredweight of milk equivalent), reallocating a little production from the high-cost region to the low-cost region would reduce total costs by the difference in adjusted blend prices. Thus, the difference in adjusted blend prices is the benefit from reallocating production and is thus a measure of the inefficiency of current production. In fact, adjusted blend prices vary substantially, even in regions with low class I utilization rates, indicating that

the current system of differentials does in fact substantially elevate costs. Reducing differentials would stimulate low cost production and permit it to displace high cost production. The result would be more equalized adjusted blend prices, substantially reduced total production costs, lower prices, and more output.

Third, lowering the grade A differential would substantially benefit society. As already discussed, any lowering of differentials will, at least in some regions, likely lower retail fluid milk prices, raise consumption, and thus reduce the loss due to the exercise of market power. Moreover, lowering the grade A differential would reduce the wasteful utilization of relatively expensive grade A milk in non-fluid products that do not benefit from grade A standards. There would be less of this wasteful use since lowering the differential would reduce the incentive to produce grade A milk for such purposes.

USDA's dairy background paper for the 1990 farm bill²⁴ shows that only 40% of the milk produced in this country is consumed in fluid form [USDA, Dairy--Background for 1990 Farm Legislation p. 64], but USDA Agricultural Statistics 1989²⁵ shows that 90% of the milk is produced to meet fluid grade standards [p. 325]. Thus, half of the nation's milk is produced to meet grade A standards even though it is consumed in forms where grade A standards are unnecessary. Milk that is handled more expensively to meet the grade A standards, but is in fact consumed in ways that do not benefit from that special handling, has been handled wastefully. The American Agricultural Economics Association Task Force on Dairy Marketing Orders reported²⁶ estimates of the extra cost of meeting grade A standards ranging from 0 to 50¢ per hundredweight and concluded that this cost is 15¢ per hundredweight or less [Occasional Paper #3 p. 19]. At annual milk sales of 1.42118 billion hundredweight. [USDA's Agricultural Statistics 1989²⁷ p. 325], wasted costs of 15¢ per hundredweight on half of that milk is an annual

waste of over \$100 million. As long as the grade A differential is higher than the additional cost of meeting the grade A standard, the regulation encourages wasteful over production of grade A milk.

While it is clear that such sudden government actions as immediate elimination of the differentials could be disruptive, it is even more clearly injurious to the public interest to maintain the status quo. The differentials should be reduced, and phased out, as rapidly as possible. Since USDA's Dairy Market Statistics²⁸ show that prices rose by \$1.90 per hundredweight last year [1989 Cooperative prices in USDA's "Selected Cities"], and since that was not considered unacceptably disruptive, it would be hard to argue that it would be unacceptably disruptive for USDA to lower differentials at half that rate (i.e., 95¢ per hundredweight per year). Such an adjustment path should begin immediately, both to reduce current impediments to competition, and to set the course towards elimination of the unnecessary and inefficient regulatory system.

III. Conclusion

The reforms proposed by the Department of Justice would quickly produce substantial benefits to society, and therefore should be instituted. An additional benefit of these reforms is that they are valuable steps away from an anachronistic regulatory system that is wasteful, expensive, and unnecessary, towards an efficient free market that would be in the public interest.

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